

EXECUTIVE SUMMARY

ASSESSMENT BACKGROUND

Responding to the requirements of the Government Performance and Results Act (GPRA) and other changes in the external environment, the U.S. Nuclear Regulatory Commission (NRC) launched several initiatives to improve the agency's business performance by increasing effectiveness and efficiency. Together these business improvement initiatives are helping the agency become performance based.

One effort entailed developing and implementing a Planning, Budgeting, and Performance Management Process (PBPM), which included: developing business strategy; developing performance targets; allocating resources; and measuring and assessing performance. The PBPM performance assessment phase envisioned enlisting the assistance of a contractor with experience in developing and evaluating government and private sector planning processes. The contractor's role included developing an assessment methodology for NRC to use to review the programs and activities necessary to achieve the agency's mission.

NRC contracted with Arthur Andersen to assist them in two efforts. These two efforts began in July 1998 and included:

1. A high-level assessment of the current NRC processes for planning, budgeting, conducting program assessments, and monitoring and measuring performance (PBPM implementation), and
2. Assistance with implementing a top-down assessment of the programs and activities of the Office of Nuclear Reactor Regulation (NRR), with an eye towards increasing organizational effectiveness and efficiency.

OBJECTIVES AND SCOPE OF THE NRR ASSESSMENT

While Arthur Andersen was asked to conduct both assessments simultaneously, this report addresses the NRR assessment. Although the assessments for PBPM and NRR were technically separate efforts, they are related. The NRR assessment can be viewed as a pilot for implementing the recommendations resulting from the PBPM assessment.

Overall, the NRR assessment methodology was intended to assist NRR in identifying the programs and activities needed to support the NRC Strategic Plan. Specifically, the results of the NRR assessment would allow NRR to identify which programs or activities should be continued, modified, or sunset, which major business processes should be redesigned and what new initiatives should be undertaken. The NRR assessment was designed to focus separately on two components: effectiveness (doing the "right" work to leverage outcomes) and efficiency (doing the work "right"). The output of the NRR effectiveness assessment will serve as a template

for use by other NRC Offices in conducting similar assessments, as prescribed by the PBPM framework. Many of the process improvement recommendations resulting from the efficiency component of the NRR assessment will be implemented through initiatives identified during the effectiveness assessment.

OBJECTIVE OF THE REPORT

Arthur Andersen's work with NRR began in early 1998. Relying significantly on NRR staff input, the Andersen team conducted efficiency reviews on two major business areas: Licensing Actions and Workload Management. Because the effectiveness assessment is ongoing, this document offers observations about current progress and the changes taking place within NRR as a result of the effort to-date, along with recommended next steps. A summarization of the efficiency reviews, accompanied by observations and recommendations for increasing NRR efficiency is included in this report. The report is organized into three sections:

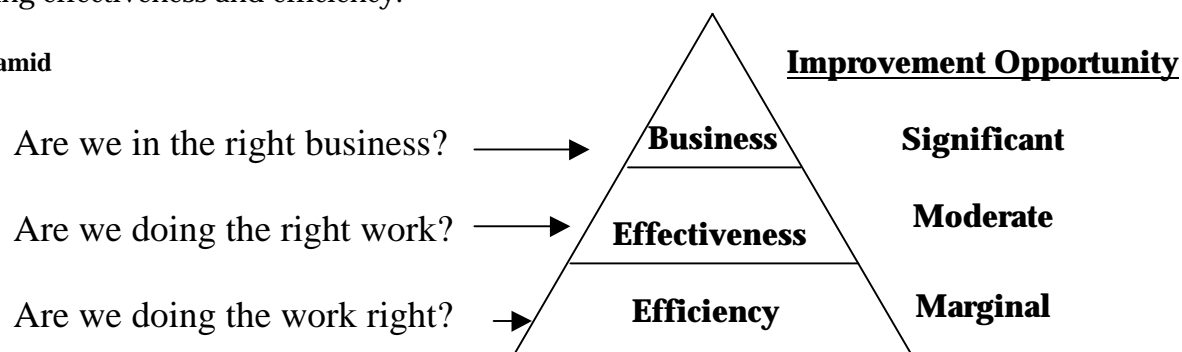
- The effectiveness assessment which describes the NRR Executive Team's efforts to-date
- The efficiency assessment which encompasses reviews of two NRR business areas, and
- A description and template for the development and implementation of the NRR Operating Plan.

Following the Executive Summary, the report summarizes the methodology and implementation of each assessment, and offers observations and recommendations for increasing NRR's overall effectiveness and efficiency. The final section discusses the philosophy underlying the proposed new Operating Plan for NRR, the role of performance measures in performance management, and other conceptual components.

GENERAL APPROACH

There are myriad assessment methodologies. The methodology assessment selected for NRR is predicated on a philosophy about the relative magnitude of desired improvement opportunities – different assessment questions yield improvement opportunities of varying magnitude. Figure A: Performance Potential Pyramid provides the foundation for understanding why the NRR assessment methodology focused on increasing effectiveness and efficiency.

Figure A: Performance Potential Pyramid



The figure implies that assessments can be conducted at three different levels within any organization. Each level requires the assessment results to answer different questions. The three organizational levels are:

- Business level – in what business do we want to be?
- Effectiveness level – what is the “right” work for accomplishing our desired outcomes?
- Efficiency level – how do we do the work right?

As an agency created by legislative fiat, it is unlikely that NRC would substantially alter its primary business – regulating nuclear power plants and materials. Thus, improvement opportunities in the efficiency and effectiveness realms became the focus of the NRR assessments.

The Effectiveness Assessment

The methodology required Arthur Andersen to facilitate the NRR’s Executive Team through the effectiveness review. The specific methodology that was developed and implemented is described in detail in the effectiveness chapter of the report. While Arthur Andersen played an independent role, constantly challenging the “status quo”, completion of the assessment and final decisions are being made by NRR. To complete the effectiveness assessment, NRR leadership had to develop outcome goals and success criteria for each outcome goal as the basis for determining the work most critical to success. The outcome goals and success metrics set the context for determining which work was both necessary and sufficient to accomplish the desired outcome goals. During the review, the NRR Executive Team began to change the way that they think about the work after they developed the goal areas and the degree of change or improvement they identified as desirable. This shift in thinking matches that envisioned by GPRA relative to managing for outcomes rather than outputs. This change in thinking and behavior by the NRR Executive Team was rapid and it created the potential for substantive change and improvements throughout NRR when challenging the value of various programs and activities in the context of meeting measurable outcomes. While this work is near completion, it is not finalized. The final product developed by the NRR Executive Team will provide a comprehensive list of activities and initiatives critical to achieving the desired outcomes and identify those that do not adequately leverage outcomes.

The Andersen team spent time with various managers in both formal and informal interviews and discussions to gain a broad understanding of the managing systems used throughout NRR.

The Efficiency Assessment

The NRR assessment approach initially focused on completing the effectiveness assessment of NRR activities and then using the results to conduct targeted efficiency reviews. After some consideration, NRR elected to move forward simultaneously with the efficiency reviews, knowing the areas chosen were high opportunity areas and the value of the effort was unlikely to be altered by

the results of the effectiveness review. The two efficiency reviews assessed Licensing Actions and Workload Management practices at NRR. NRR selected these two areas because of the numerous resources involved and the perceived improvement opportunities. The methodology included five specific considerations for each review. They include:

- Process: how the work actually gets done
- Tools: the supporting tools including information technology and knowledge management
- Skills: the skills required for managing and doing the work
- Expectations and accountabilities: performance standards for work efforts, and
- Organizational culture: the beliefs and values underpinning the work processes

The approach for the efficiency assessments relied heavily on public and private sector best practices for like functions, process analysis, and reviews of general work activities to facilitate idea generation. The Andersen team worked closely with NRR staff using focus groups and individual interviews to gather information that provided the foundation for the findings and recommended strategies for improving efficiency.

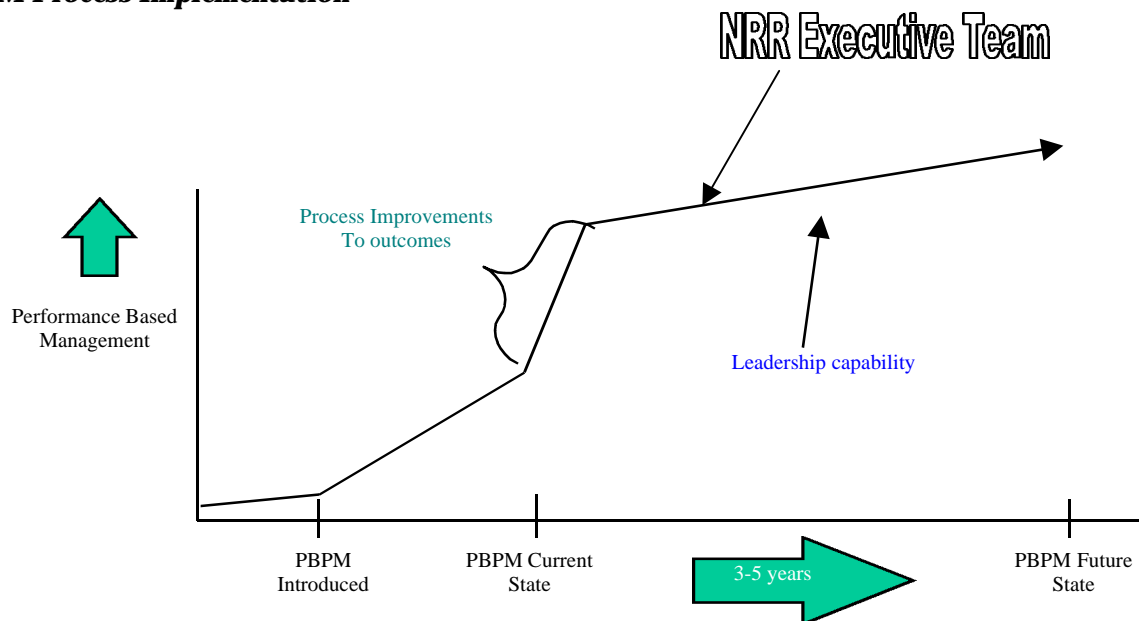
The Operating Plan Template

Arthur Andersen is assisting NRR with testing a template to develop NRR's new outcome based Operating Plan. The concepts underlying the proposed template are described in the final chapter of this report. Performance management practices inform the design of the new operating plan. The new plan is intended to serve as a key management tool as NRR moves towards performance based operations.

FINDINGS & RECOMMENDATIONS

This section summarizes the overall findings of both assessments and makes general recommendations for becoming performance based. It does not provide specific guidance for implementing the recommendations, however recommendations contained in the text of the report and its Appendices further illuminate the work NRR needs to undertake to become more performance based. Figure B – PBPM Process Implementation portrays the state of change where the one critical process improvement was moving to outcomes. The NRR ET moved quickly from intellectually understanding outcomes and the expected results to challenging the way they do work. The findings and recommendations should be considered in the context of change where many improvement initiatives were already underway during the review.

Figure B – PBPM Process Implementation



Findings

NRR Leadership

- Progress made by the Executive Team - The significant progress in understanding and embracing the need to become outcome based far exceeded the Andersen team's expectations. The Executive Team (ET) has been open to change and has accepted the challenges associated with this new thinking. This required moving from an intellectual understanding to an emotional commitment to outcomes as a better business model over 4-5 months.
- Receptivity of NRR leaders - The work products developed by the ET were reviewed and upgraded by the Division Directors. The group was receptive to the challenges presented by the ET. The lack of functional protectionism and the resulting consensus about potential new work and shed activities demonstrated the leadership alignment required for moving forward with implementation.
- Learning Organization - There is a desire within NRR leadership to develop into a learning organization. The leadership openness to change throughout the assessment is setting the example for NRR to succeed.

Effectiveness Results to-date

- Moving to outcomes versus outputs - NRR is demonstrating the progress envisioned in PBPM for the agency move to outcomes based management. They have identified the goals, vectors of change, and measurable success criteria.
- Work planning realignment - The NRR team also identified a number of new initiatives that are required to deliver the intended outcomes. Also, they concluded that there are currently a number of activities carried out throughout NRR that may not be necessary to deliver NRR's intended outcomes.
- Organizational roles - One discovery by the NRR ET was that in order to aggressively move forward, they would have to redefine their role as a leadership team. Their now appropriately view their primary responsibility as setting direction and clarifying expectations for the rest of the organization.

Work Processes:

- Planning from the top-down - The current operating plans focus on accounting for activities and outputs by program. Much of the plan was developed from the bottom-up rather than identifying work that is necessary to deliver outcomes starting with the outcomes, a top-down planning approach.
- Workload Management - There is not a general systems approach to managing work. This negatively impacts the ability to deliver reliable and predictable results. The following are contributors:
 - Given the complexity of work at NRR, staff are encouraged to develop deep technical expertise in various engineering disciplines. This fosters an individualistic approach to work load completion which is inconsistent with identifying and optimizing work processes.

- Empowerment and micro-management are terms that are used regularly within NRR and NRC. To some, empowerment means being able to do what each deems best. On the other hand, micro-management is considered to be anything from specific leadership expectations, performance standards, or limitations placed on the individual.
- The staff indicates that as much as 20% of the work is reactive or today's hot issue, the swinging pendulum. The current workload planning, prioritization, and monitoring system is not efficient in allocating work based on an integrated set of organizational priorities.
- The work requirements coming into NRR from the EDO or Commission generally becomes top priority. This infusion of new work is not integrated into an effective planning process grounded in outcomes that identifies the impact of new work on results.
- The technical demands of the work are variable. Too much specialization reduces workforce and workload management flexibility.

Environment for change support - For NRR and NRC to realize the potential resulting from both assessments there are numerous organizational challenges associated with becoming outcome based at NRC. These challenges include:

- Taking ownership for outcomes – Managing for outcomes is more challenging than for outputs, since outcomes are affected by variables not necessarily within the control of the organization, group, or individual. One behavior associated with becoming outcome based is challenging any work that does not leverage NRR's defined outcomes.
- Defining and using performance measures to stretch the organization to continuously improve – There is a concern that setting stretch performance goals that may not be attained is risky. There is a fear that any variance from performance standard will be punished rather than be used as a tool to facilitate improvement. This will require some changes in the management oversight and feedback process. At the same time, there needs to be effective rewards and consequences for performance.
 - Performance expectations & standards are not universally clear and understood
 - The challenges within government to effectively engage poor performance will be a barrier to truly becoming outcome and performance based. There is generally an understanding of who falls into the category of bottom performance. However, most managers do not believe the "system" is supportive, simple, or effective in dealing with non-performance.
- Number of change initiatives – The agency needs to calibrate how many new things they try to take on at one time. There is a tremendous leadership investment of time for both the organizational restructuring and the process changes to become outcome based. These are both substantial change interventions.
- Understanding of the NRR effort – While the EDO, EC, and Commission have had general briefings on the approach and progress of the NRR assessment, there should have been more thorough discussions with each group on the lessons learned and implications for rollout throughout NRR.

Recommendations

The following recommendations prescribe, at a high level, a course of action for the NRC in its efforts to leverage the results of the assessment and become more performance based.

Effectiveness Effort –

- Complete the effectiveness template as the foundation of the 2001 Operating Plan/Budget. The NRR Executive Team should review the results with senior agency management to gain support for the goals, success criteria, new work, and potential shed list.
- Integrate the outcomes and success measures from NRR with the results of RES to ensure the reactor effort is fully integrated.
- Define the new organizational values and behaviors associated with becoming a learning-based, performance based, and outcome driven organization. These should be consistent with the principles of good regulation. NRR could develop a draft of these for the operating plan.

Operating Plan Development –

- Complete the work that translates the effectiveness template into an office wide operating plan. This builds the plan from the top-down and should demonstrate how all work within NRR is expected to contribute to the goals. After completing the operating plan communicate up the organizational chain what your proposed reporting and managing process will be to gain agreement as to the changes. This will facilitate improving the assessment portion of the process.
- In building the operating plan, performance standards for all critical work needs to be included and communicated to all of the staff. The operating plan can then be used as a valuable tool in communicating changes in expectations throughout the NRR organization.
- The capability throughout NRR to develop and use performance goals and measures as a way of challenging the organization to facilitate continuous improvement needs to be developed. NRR can use lessons learned from the effort to develop the operating plan standards and expectations as a tool for continuous improvement.

Managing for Continuous Improvement –

To become more predictable and consistent throughout NRR, management must begin to direct and oversee the work with very clear process standards and performance standards and track them statistically. While some managers understand the concept, it is not a managing discipline used throughout the office.

- A specific process improvement standard, reducing process variability by 25%, is included in the success criteria for NRR and should facilitate continuous improvement. However, this is a management process change. NRR should consider sending several managers to training like “Statistical Process Control for Managers” which will introduce them to the “Hows” of managing process improvements. This is also extremely valuable in monitoring performance.

- To facilitate the change, NRR should consider moving to a work planning and control center where all work is planned and directed to individuals from a central point. This would facilitate consistency of expectations and reduce to one single point of accountability the determination of how work fits into organizational priorities. Specific recommendations associated with centralized work planning are discussed in detail in the Efficiency chapter of the report. The details include increasing workforce flexibility, the use of process templates, development of a knowledge management strategy, and use of best process practices. A work control center is one of the new initiatives that NRR is pursuing.
- NRR should clarify and then communicate how the performance expectations in the operating plan will be used to inform the individual performance evaluations at all levels of NRR.

Organizational Support for NRR

Any change initiative requires the organization to identify and support the short-term successes within the change initiative. The changes in NRR should fall into that category. If they are to be sustained and leveraged throughout the organization, the EDO, EC, and Commission must understand and actively support the effort in NRR to ensure sustainable change. The following recommendations apply:

- Engage the entire organization about the need to manage for outcomes versus outputs. An overview orientation of 1-2 hours should be considered for the EDO staff, the EC, the Commissioners because of the support NRR will need to be successful. This is the first step to consistency of leadership action.
- After defining the behavior norms associated with becoming learning based, outcome based, organization NRC needs to develop a plan to encourage and support NRR systemically.
- The ET should continue the effort begun during the assessment to redefine their roles within the NRR organization. This will require leadership to focus on the changes required to deliver the outcomes. Part of the role is to interface with the external organization and other stakeholders to ensure constancy of purpose where guidance is clear, establish expectations, and maintain NRR focus on outcomes, not today's hot issue. This requires a shift from solving problems to managing processes at the leadership level. This will require support from the EDO and Commission to stay at the right level of work and not micro-manage. Performance oversight discipline to review performance at the right level is a key.
- As part of the role review, the NRR ET should re-evaluate the decision-making processes. The current processes drive many decisions to the top. Consider delegating the decision authority to where the knowledge and authority should be within the organization.
- The agency needs to develop a strategy to effectively deal with non-performance if and when it exists. Rewards and consequences associated with performance are critical to supporting a change effort. There is also an organizational need to confront non-performance at all levels that balances respect both the organizational goals and people at the same time.